

FIG. 2

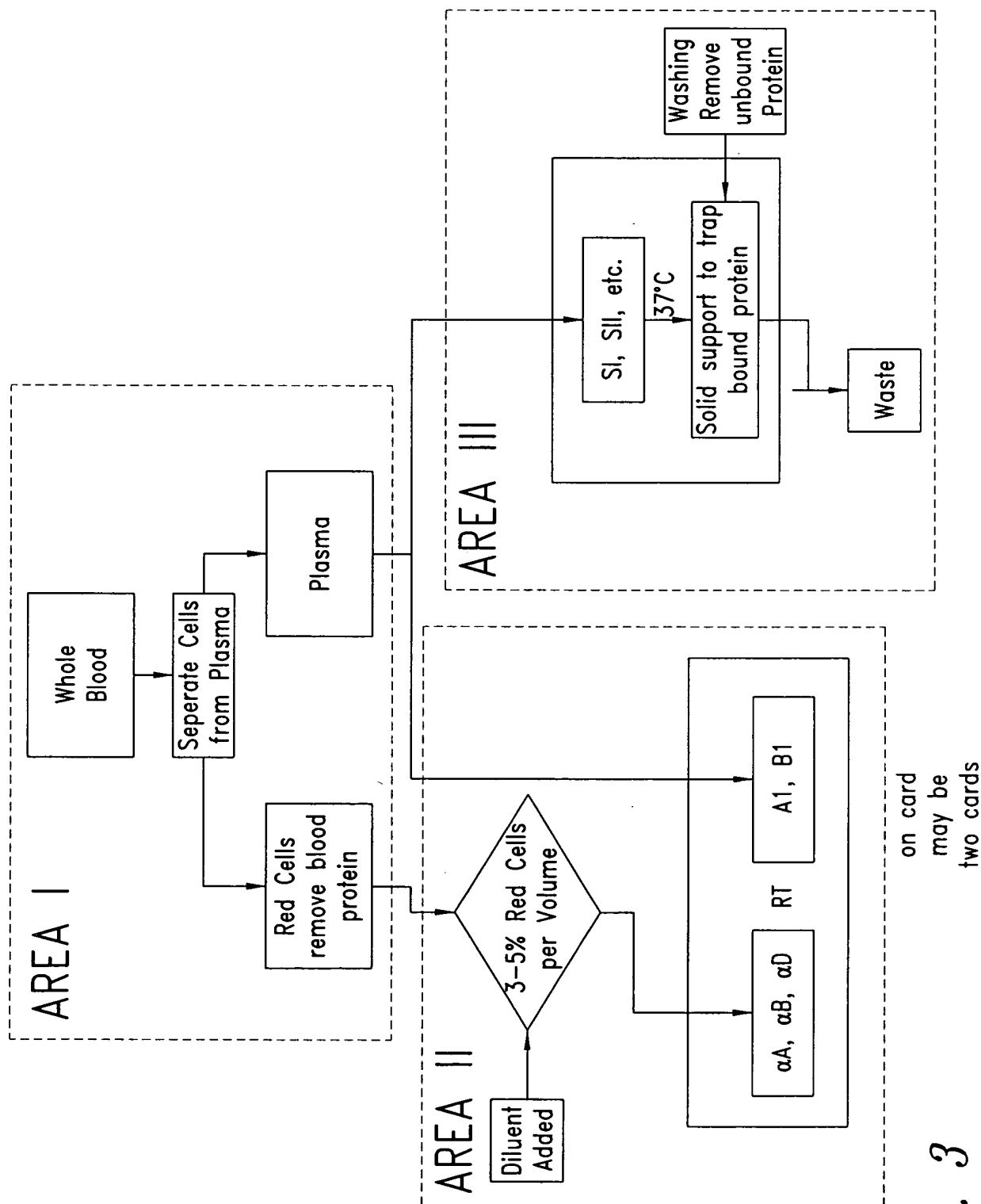


FIG. 3

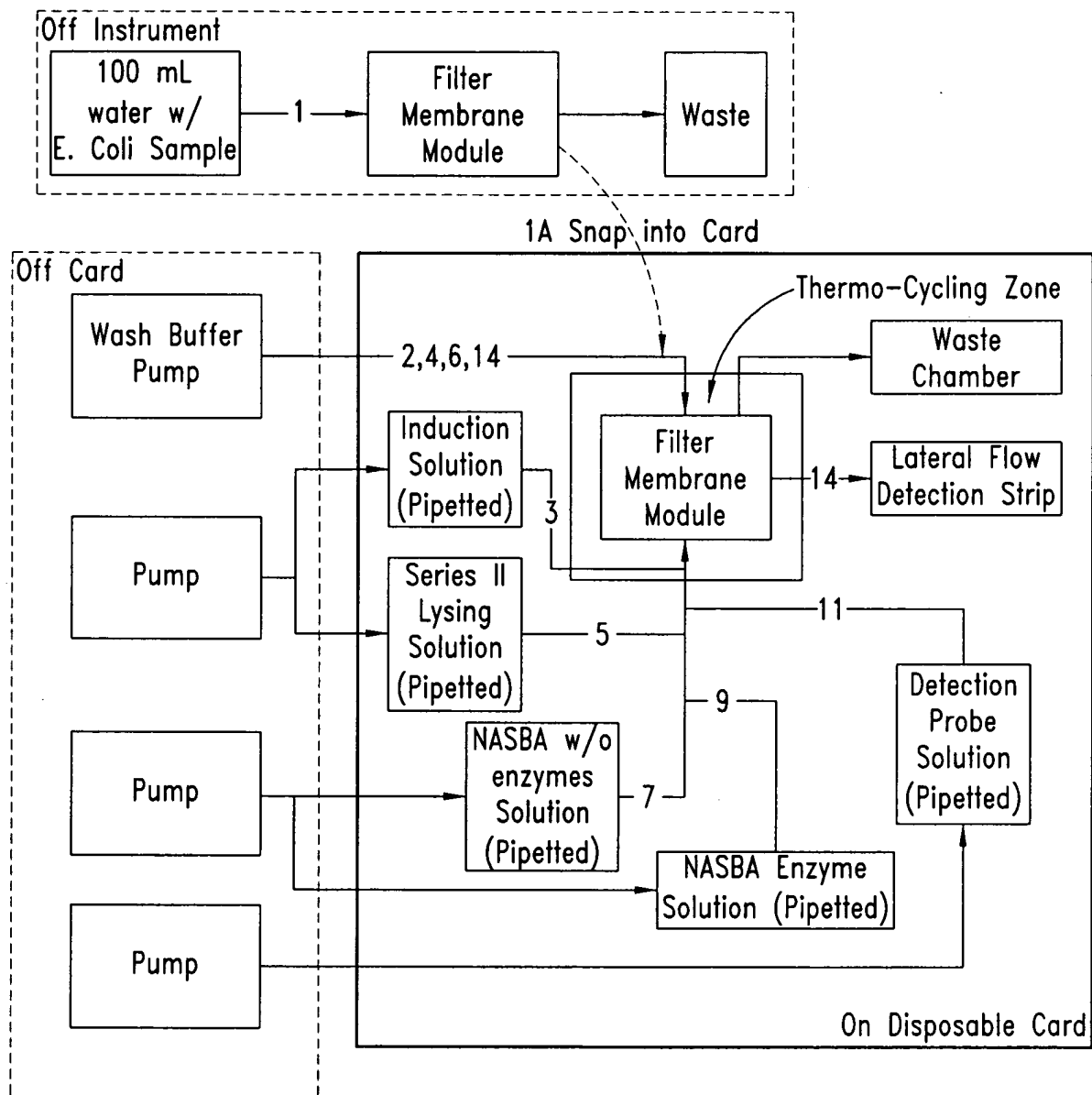


FIG. 4A

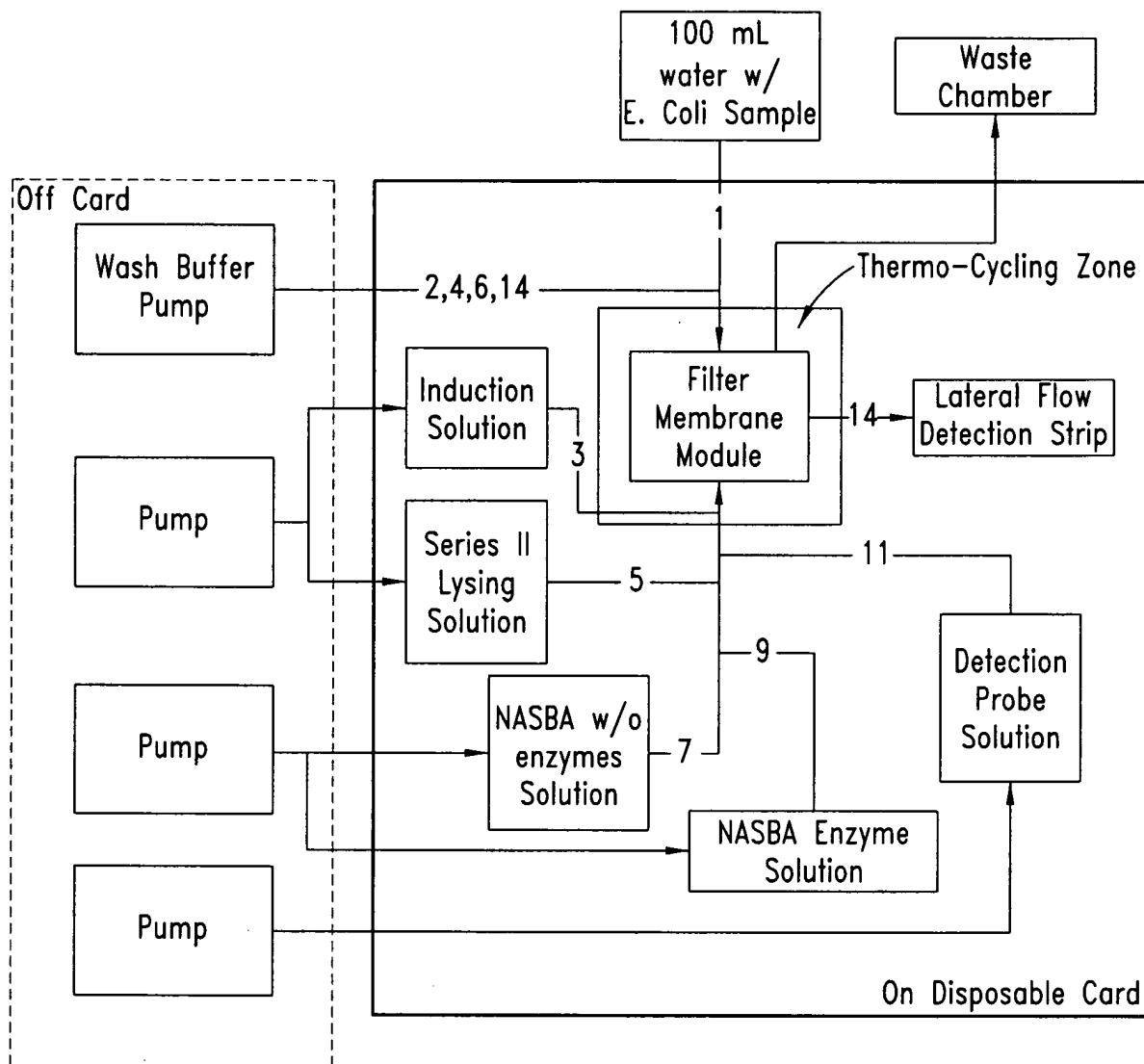


FIG. 4B

WATER SAMPLE FILTRATION

Step	Solution	Volume	Pump	Rate	Flow Logic
1	Wash sample	TBD	N/a	TBD	Water sample filtered through the Filter Membrane Module. Target cellular material is on membrane material.
1A	None	N/A	N/A	N/A	The Filter module is removed from filtration apparatus and snapped into the disposable card.

RUN PROCESS

Step	Solution	Volume	Pump	Rate	Flow Logic
2	Wash buffer	TBD	1	TBD	Pumped across the membrane. Target cellular material remains on the membrane.
3	Induction solution	20–40 μ l	2	TBD	Induction solution that has been pipetted onto the card will be pumped across the membrane.
4	Wash buffer	TBD	1	TBD	Induction solution is washed from membrane with the wash buffer and to waste reservoir.
5	Series II lysing solution	20–40 μ l	2	TBD	A solution to lyse the cells is pumped to the filter cell material and across the membrane.
6	Wash buffer	TBD	1	TBD	Lysing solution is washed from membrane with the wash buffer and to waste reservoir.
7	NASBA w/o enzymes	4–40 μ l	3	TBD	NASBA solution is pumped to the filter and lysed cell material.
8	Wash buffer	TBD	1	TBD	The NASBA solution is washed from membrane with the wash buffer and to waste reservoir.
9	NASBA enzyme solution	4–8 μ l	3	TBD	NASBA solution with enzyme is pumped to the cellular material on the membrane.
10	Wash buffer	TBD	1	TBD	The NASBA solution is washed from the membrane and to waste reservoir.
11	Detection probe solution	2.5 – 5.0 μ l	4	TBD	Detection solution is pumped to the material on the membrane.
12	Thermo-cycling step	N/a	N/a		The card is removed from instrument. The card with cellular material is thermo-cycled to amplify the DNA signal.
13	Wash buffer	TBD	1	TBD	Detection probe solution is washed from the membrane where it is exposed to the lateral flow detection strip.

DETECTION PROCESS

Step	Solution	Volume	Pump	Rate	Flow Logic
14	Wash buffer	TBD	1	TBD	Channel opened to lateral flow detection strip and Buffer pumped to the amplified DNA on the membrane to the lateral flow detection strip.

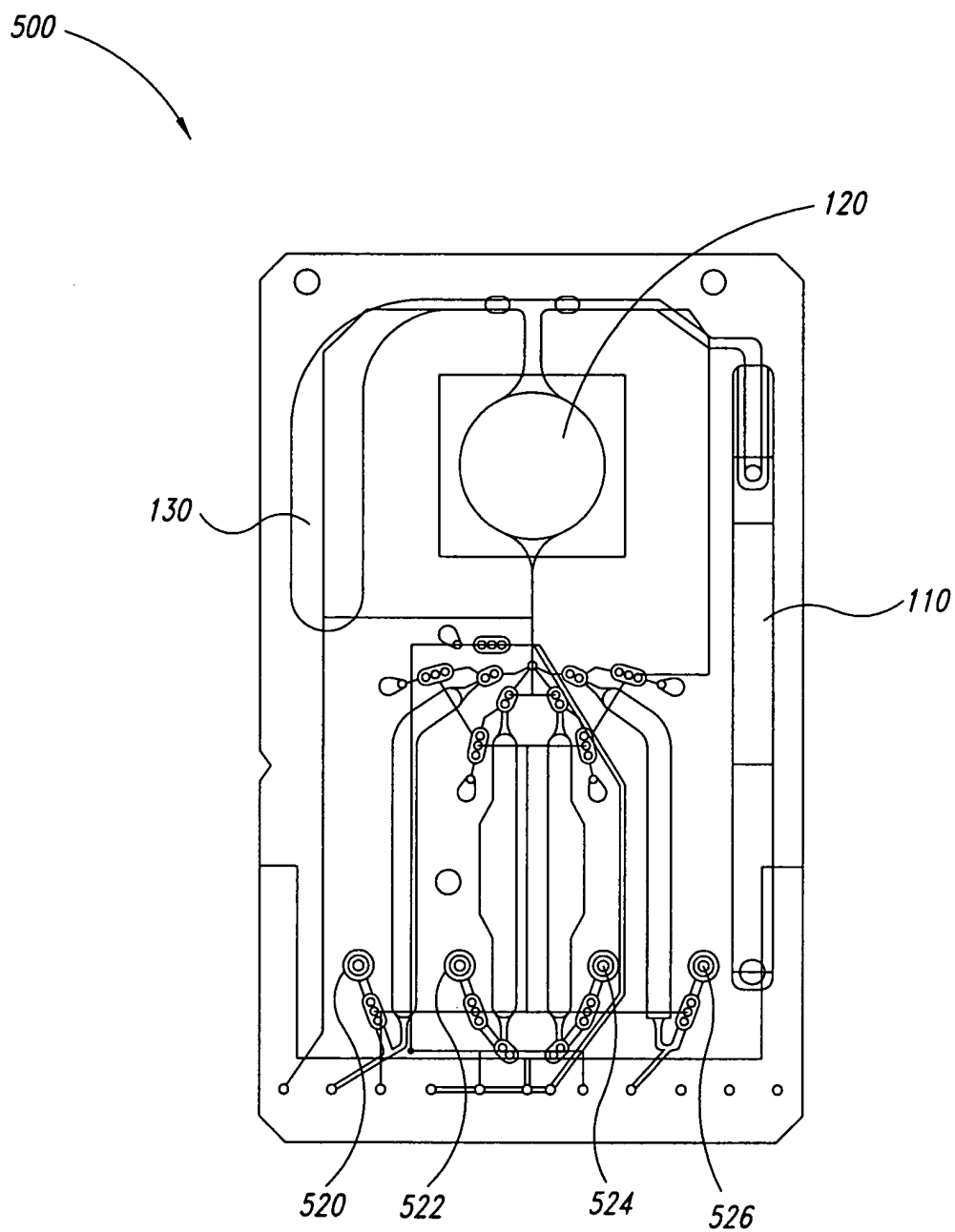


FIG. 5

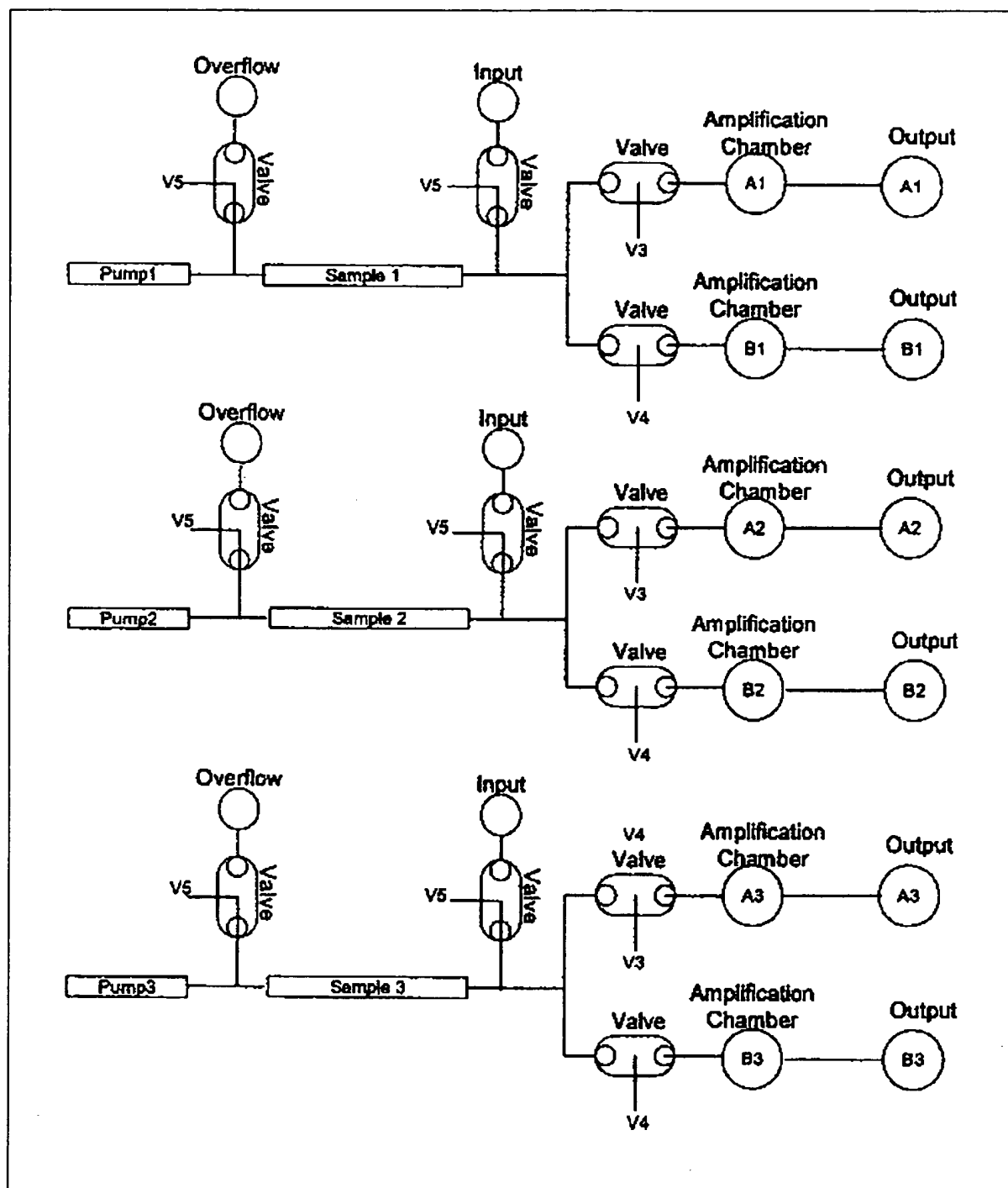
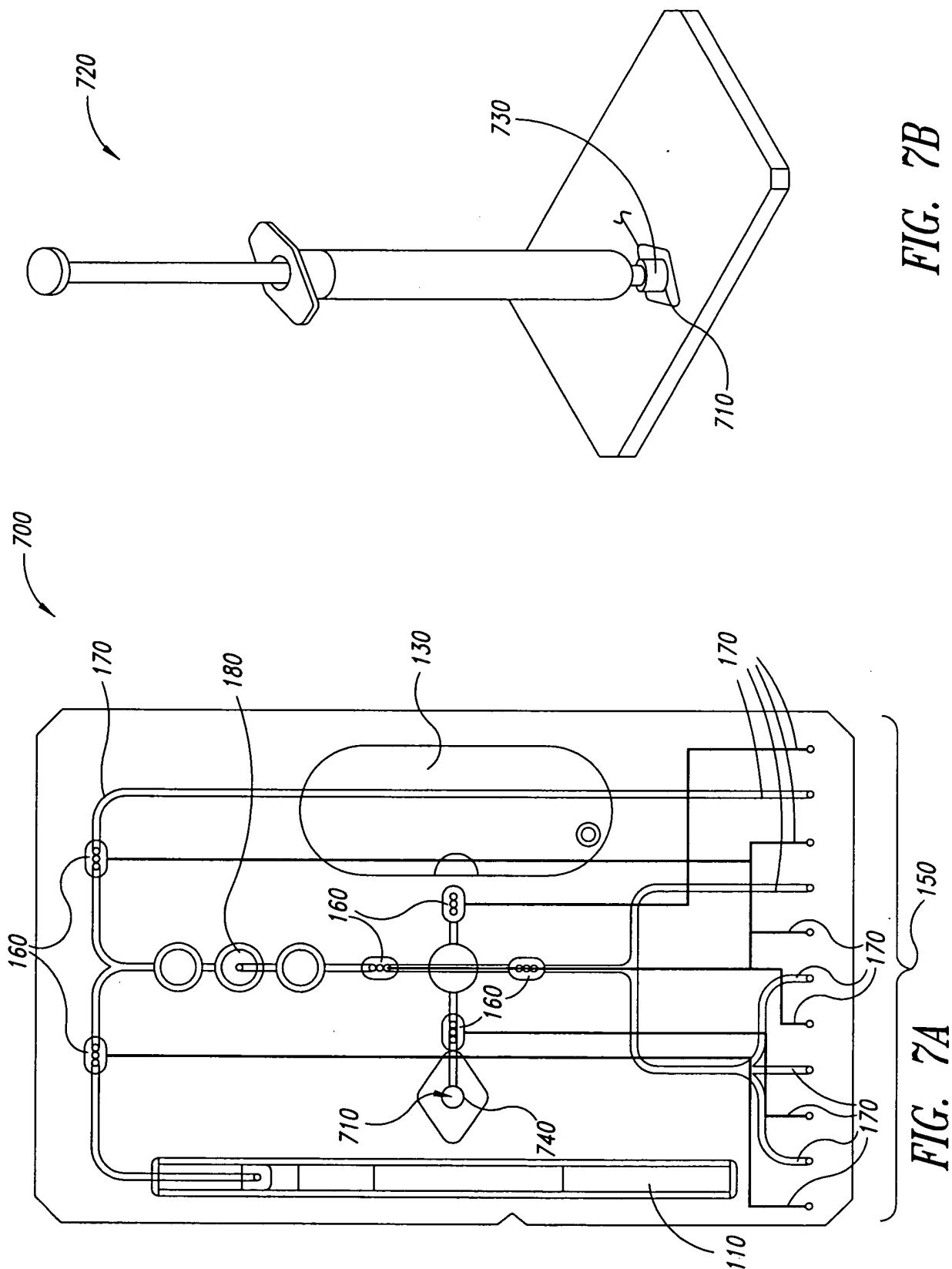


FIG. 6



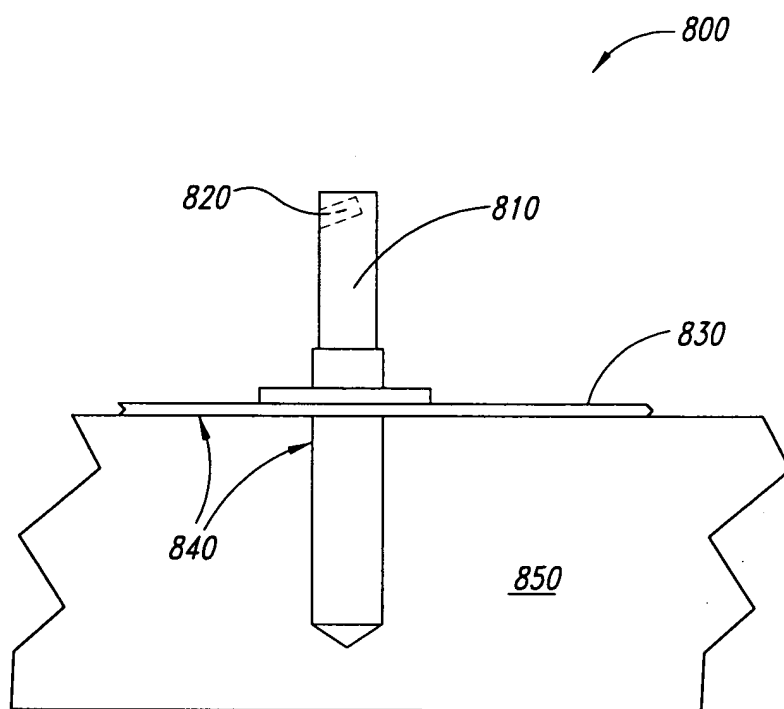


FIG. 8

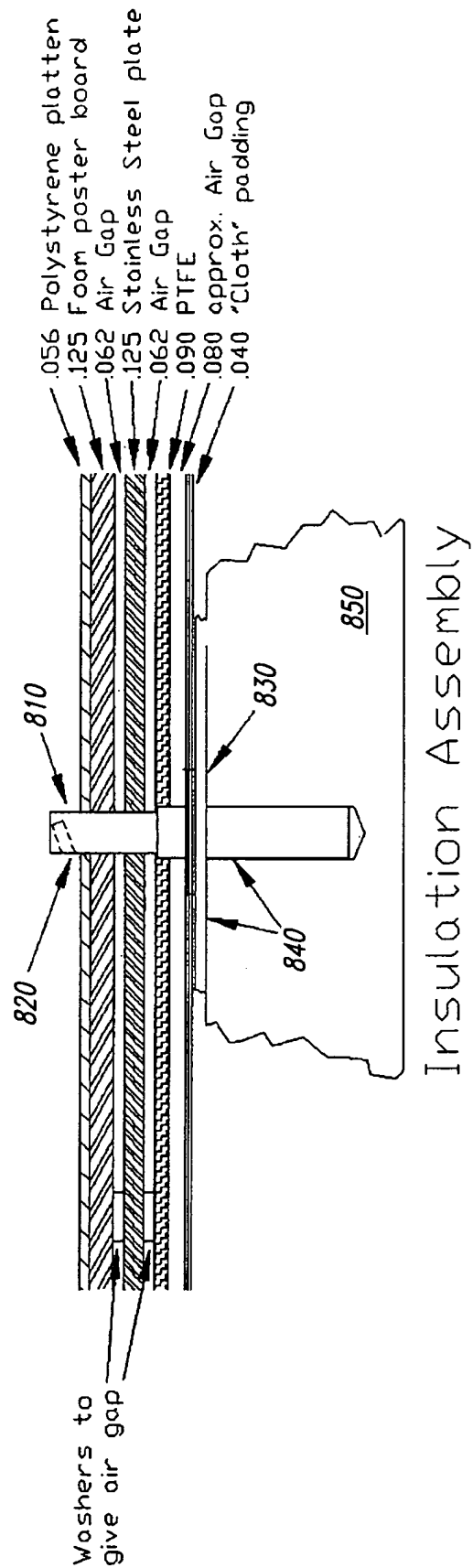


FIG. 9

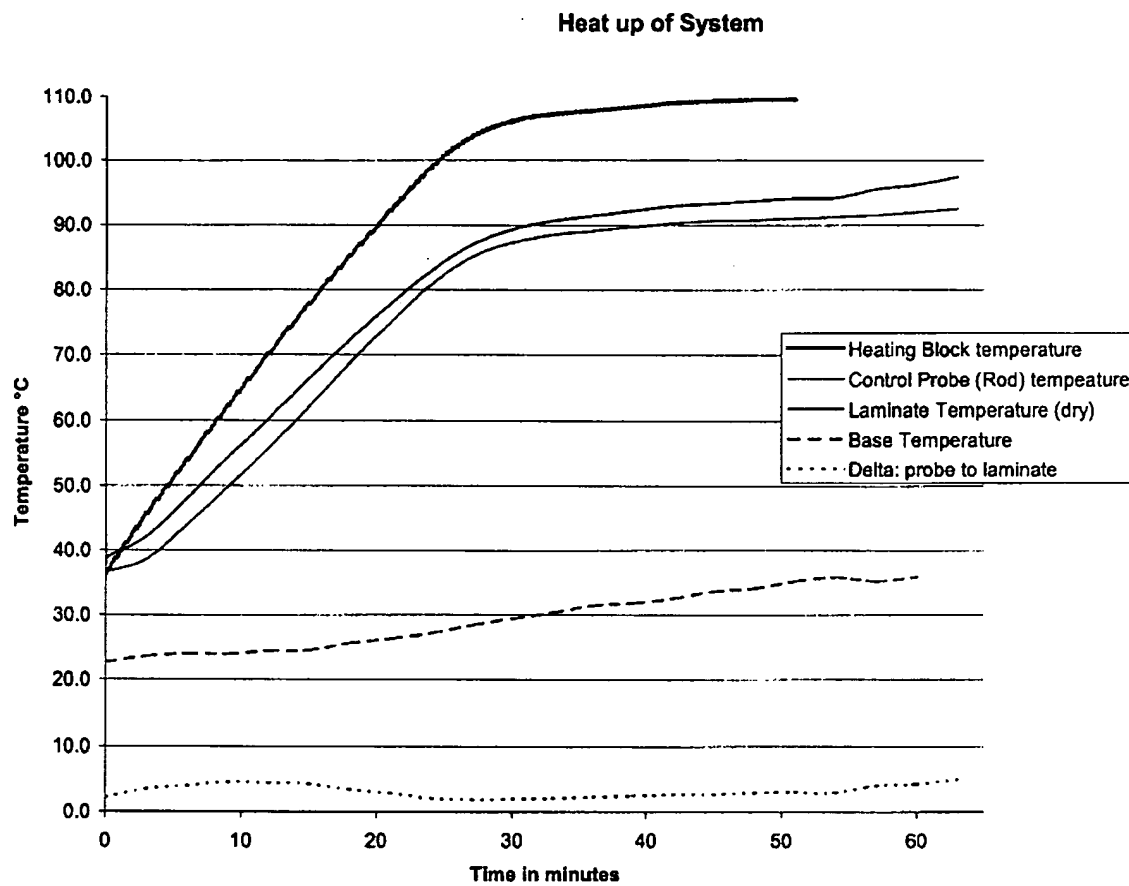


FIG. 10

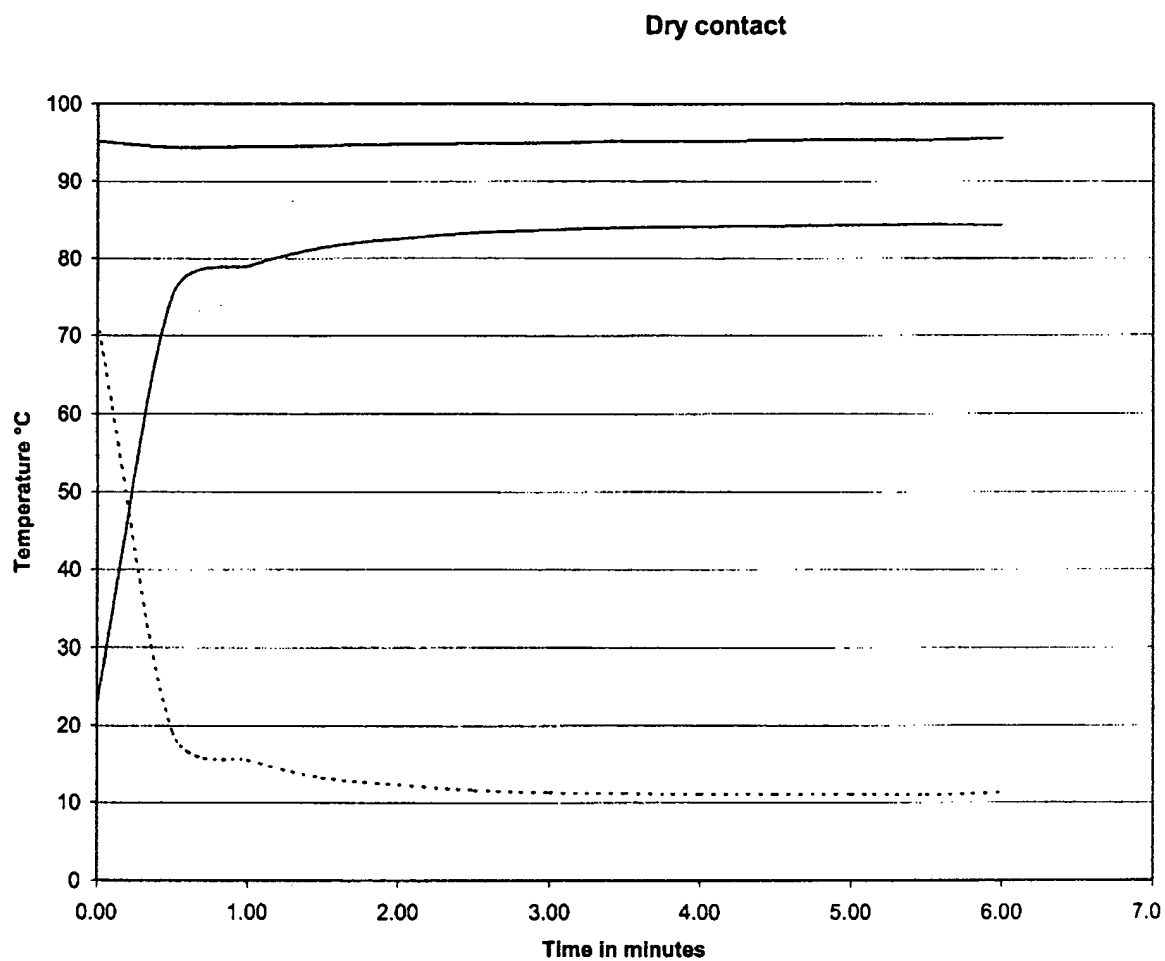


FIG. 11

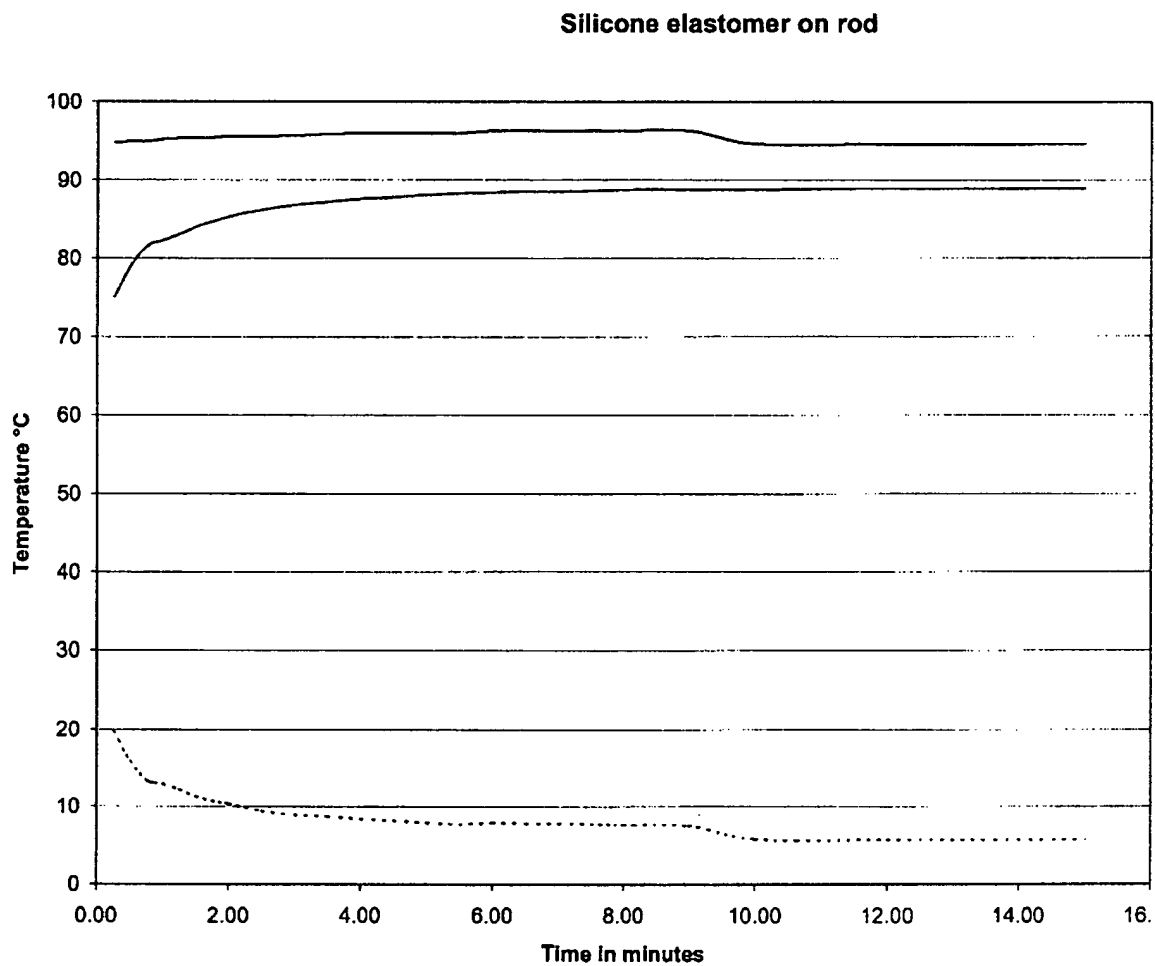


FIG. 12

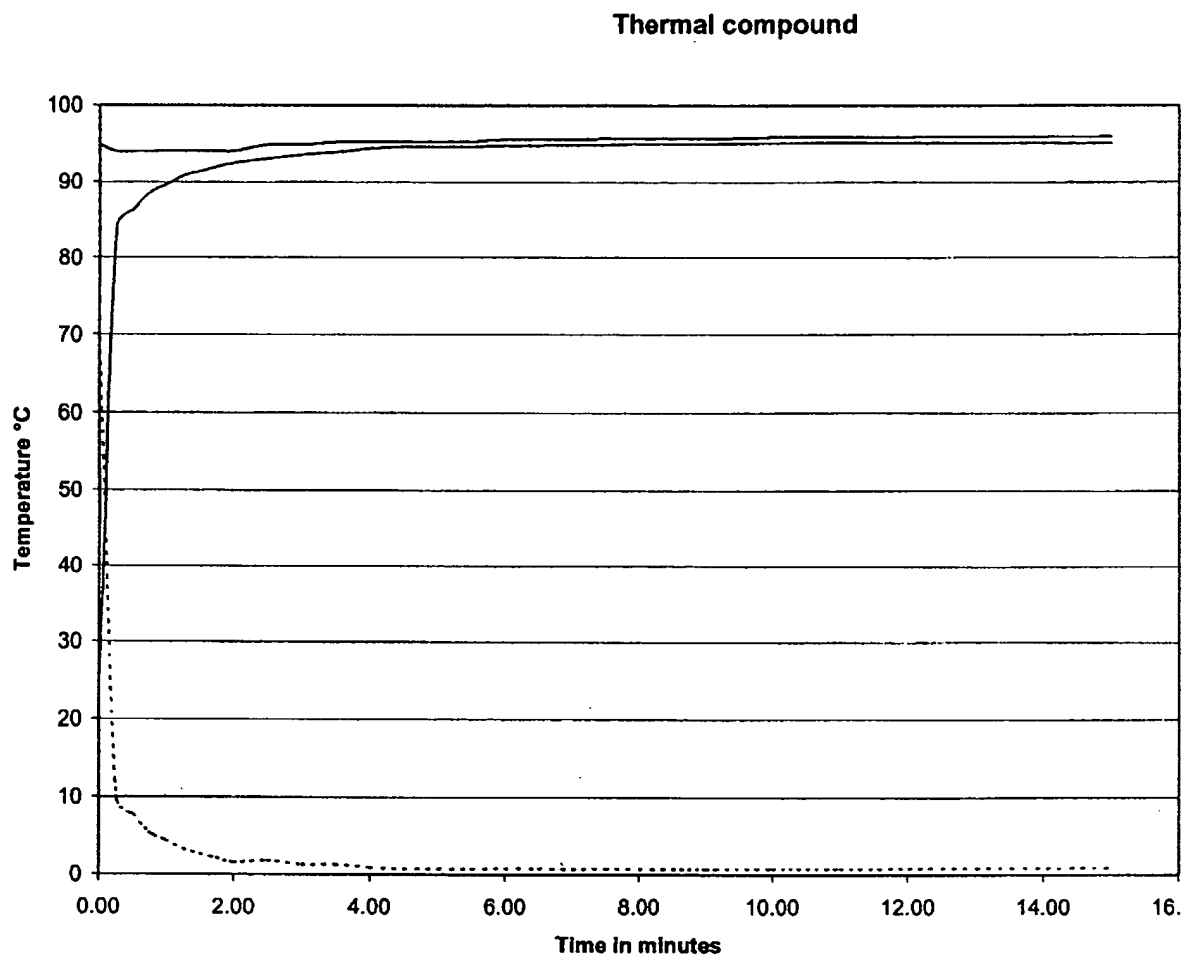


FIG. 13

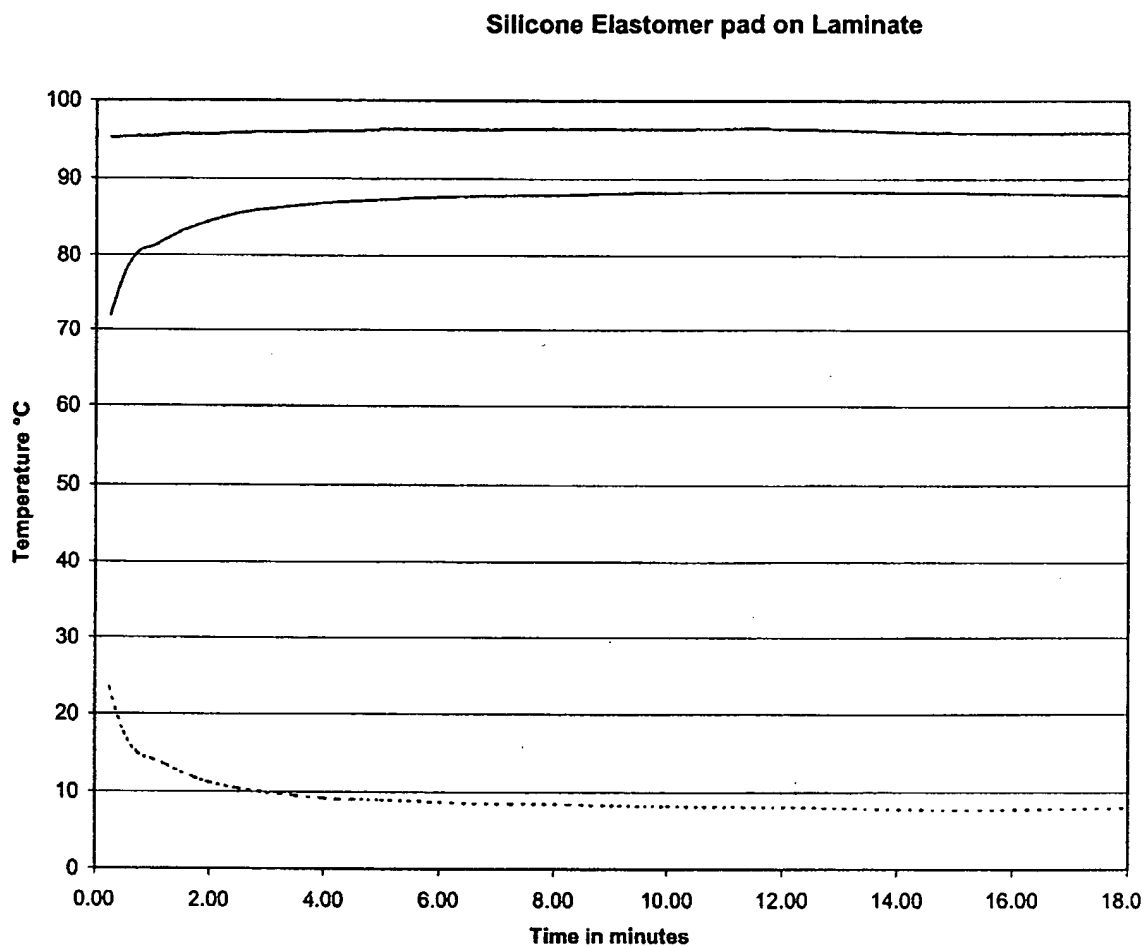


FIG. 14